ABSTRACT OF THE DISCLOSURE

A gain characteristic correctable dynamic range enhancement system (DRES) receives input signals from an imager device connected to a correlated double sampling (CDS) circuit for receiving the video signal from the CCD imaging device. The dynamic range enhancement system includes a variable gain amplifier (VGA), and a limited bit-width analog-to-digital converter (ADC) which digitizes the analog signal received from the VGA. The output of the ADC is provided to an initial bit range position of a wider bit-width shifter connected to the output of the ADC. The DRES system correctably extends the dynamic range of the imager device, subject to offsets providing linearity corrections at predetermined trip points, subject to determined offset values, to ensure that there are no discontinuities in the system transfer function.